

Amendments to the Claims

1. (Currently Amended): An atomic layer deposition method of forming an oxide-comprising layer on a substrate, comprising:

*Placed
center
2/27/06*
~~positioning~~ providing a substrate within a deposition chamber;

chemisorbing a first species to form a first species monolayer onto the substrate within the deposition chamber from a gaseous first precursor;

contacting the chemisorbed first species with a gaseous second precursor effective to react with the first species to form an oxide of a component of the first species monolayer, the contacting at least in part resulting from flowing O₃ to the deposition chamber, the O₃ being at a temperature of at least 170°C at a location immediately before where it is emitted into the deposition chamber; and

successively repeating the chemisorbing and the contacting to form an oxide-comprising layer on the substrate.

2. (Previously Presented): The method of claim 1 wherein the O₃ is at a temperature of at least 200°C at the location immediately before where it is emitted into the deposition chamber.

3. (Previously Presented): The method of claim 1 wherein the O₃ is at a temperature of at least 300°C at the location immediately before where it is emitted into the deposition chamber.

4. (Previously Presented): The method of claim 1 wherein the O_3 is at a temperature of at least 350°C at the location immediately before where it is emitted into the deposition chamber.

5. (Previously Presented): The method of claim 1 wherein the O_3 is at a temperature of no greater than 600°C at the location immediately before where it is emitted into the deposition chamber.

6. (Original): The method of claim 1 wherein the substrate is positioned on a substrate heater, the substrate heater being at a temperature of at least 350°C during the contacting.

7. (Original): The method of claim 1 wherein the substrate is positioned on a substrate heater, the substrate heater being at a temperature of at least 400°C during the contacting.

8. (Original): The method of claim 1 wherein the deposition chamber comprises a lid heat source, the contacting occurring while the lid heat source is heated to a temperature of at least 300°C.

9. (Original): The method of claim 1 wherein the deposition chamber comprises a lid heat source, the contacting occurring while the lid heat source is heated to a temperature of at least 350°C.

10. (Original): The method of claim 1 wherein,
the deposition chamber comprises a lid heat source, the contacting occurring while the lid heat source is heated to a temperature of at least 350°C; and

the substrate is positioned on a substrate heater, the substrate heater being at a temperature of at least 350°C during the contacting.

11. (Original): The method of claim 1 wherein the deposition chamber comprises a lid heat source, the contacting occurring while the lid heat source is heated to a temperature of at least 430°C.

12. (Original): The method of claim 11 wherein the substrate is positioned on a substrate heater, the substrate heater being at a temperature of at least 430°C during the contacting.

13. (Original): The method of claim 1 wherein the gaseous first precursor comprises a metal organic.

14. (Original): The method of claim 1 wherein the O₃ forms O* proximate the substrate which reacts with the chemisorbed first species to form the oxide.

15. (Previously Presented): The method of claim 1 wherein the first species monolayer is at a temperature during the contacting, the O_3 being at a temperature at the location immediately before where it is emitted into the deposition chamber which is greater than the first species monolayer temperature during the contacting.

16. (Previously Presented): The method of claim 1 wherein the O_3 is at a temperature of at least 200°C at the location immediately before where it is emitted into the deposition chamber, the O_3 forming O^* proximate the substrate which reacts with the chemisorbed first species to form the oxide.

17. (Previously Presented): The method of claim 16 wherein the first species monolayer is at a temperature during the contacting, the O_3 being at a temperature at the location immediately before where it is emitted into the deposition chamber which is greater than the first species monolayer temperature during the contacting.

18. (Previously Presented): The method of claim 1 wherein the O_3 is at a temperature of at least 300°C at the location immediately before where it is emitted into the deposition chamber, the O_3 forming O^* proximate the substrate which reacts with the chemisorbed first species to form the oxide.

19. (Previously Presented): The method of claim 18 wherein the first species monolayer is at a temperature during the contacting, the O_3 being at a temperature at the location immediately before where it is emitted into the deposition chamber which is greater than the first species monolayer temperature during the contacting.

20. (Original): The method of claim 1 wherein the contacting at least in part results from flowing a mixture of O_2 and O_3 to the deposition chamber.

21. (Previously Presented): The method of claim 1 wherein the O_3 is flowed to the chamber from a conduit, the conduit being void of any external heat source at a location immediately before from where it enters the chamber to no greater than one foot upstream.

Claims 22-57 (Canceled).

58. (Previously Presented): The method of claim 21 wherein the conduit joins to the deposition chamber at a chamber lid.

59. (Previously Presented): The method of claim 58 comprising heating the conduit with an external heater immediately at a location immediately before where the conduit joins with the chamber lid.

60. (Previously Presented): The method of claim 58 comprising heating the conduit with an external heater received one foot from the chamber lid.

61. (Previously Presented): The method of claim 58 comprising heating the conduit with an external heater received within one foot from the chamber lid.

62. (Previously Presented): The method of claim 1 wherein the O_3 is emitted into the chamber centrally over the substrate.

63. (Previously Presented): The method of claim 62 wherein the oxide-comprising layer formed from the successively repeating has greater thickness uniformity across the substrate than would otherwise occur under identical processing conditions with an exception of the O_3 being at a temperature less than 170°C at the location immediately before where it is emitted into the deposition chamber.

64. (Previously Presented): The method of claim 1 wherein the O_3 is heated by a heater external of the chamber prior to being emitted into the chamber, the gaseous first precursor flowing through said heater.

65. (Previously Presented): The method of claim 1 wherein the O_3 is heated by a heater external of the chamber prior to being emitted into the chamber, the gaseous first precursor not flowing through said heater.